

SEQUENCE LISTING

<110> Lancet, Doron
Menashe, Idan
Man, Orna
Gilad, Yoav

<120> POLYMORPHIC OLFACTORY RECEPTOR GENES AND ARRAYS, KITS AND METHODS
UTILIZING INFORMATION DERIVED THEREFROM FOR GENETIC TYPING OF
INDIVIDUALS

<130> 28364

<160> 104

<170> PatentIn version 3.2

<210> 1
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223> Synthtic DNA oligonucleotide

<400> 1
gatgctgccc tccagtcgcc tatgt 25

<210> 2
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223> Synthtic DNA oligonucleotide

<400> 2
gggtctaact tgggtggaca ggtcc 25

<210> 3
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223> Synthtic DNA oligonucleotide

<400> 3
agaactgtgc ttcaggttcc ttctt 25

<210> 4
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223> Synthtic DNA oligonucleotide

<400> 4
ggcatttgac cgctctgtgg ctat 24

<210> 5
<211> 25
<212> DNA
<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 5

cggccacttc tgcgagcctc ttggtt

25

<210> 6

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 6

cctgggcctt cccatccaac ctgag

25

<210> 7

<211> 27

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 7

tgctctaaga tccttcctgg cttcttc

27

<210> 8

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 8

tggcctatga ccgctttgtg gcgat

25

<210> 9

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 9

ctgcatgaca cagacctttc tcttt

25

<210> 10

<211> 25

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 10

tgtgttgata cccaggcaaa tgagc

25

<210> 11

<211> 25

<212> DNA

<213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

 <400> 11
 tggcctatga ccgattcctg gccat 25

 <210> 12
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 12
 accatcatga atcgacaggt ttgca 25

 <210> 13
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 13
 ggcatgattg ccctgggtgtg cttca 25

 <210> 14
 <211> 24
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 14
 aaaacttttt ttgtgatgtt cccc 24

 <210> 15
 <211> 26
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 15
 tggtttgagg cacgtgaaat cagtct 26

 <210> 16
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 16
 tgtccattga ccgtacgtg gccgt 25

 <210> 17
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 17
 cctatgtcac cgcccttctt gggaa 25

<210> 18
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 18
 tggcatttga tcgctatgta gctat 25

<210> 19
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 19
 ctgccctact gcagaggcaa tatac 25

<210> 20
 <211> 24
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 20
 attcctagaa aactctgtat taaa 24

<210> 21
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 21
 gagtgttttc tcctggctgc catgg 25

<210> 22
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 22
 caacactttt actgtgacat tatcc 25

<210> 23
 <211> 25
 <212> DNA

<213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 23
 atcgtctgga cactgctgca catcc 25
 <210> 24
 <211> 25
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 24
 cggcctatga ccgcttcgtg gccat 25
 <210> 25
 <211> 25
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 25
 tactttttcc tccgacactt ggcta 25
 <210> 26
 <211> 25
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 26
 tgtcctacga ccgctatgtg gccat 25
 <210> 27
 <211> 25
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 27
 gatgctgccc tctagtcccc tatgt 25
 <210> 28
 <211> 25
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> Synthtic DNA oligonucleotide
 <400> 28
 gggctctaact tgagtggaca ggtcc 25
 <210> 29
 <211> 25

<212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 29
 agaactgtgc tttaggttcc ttctt 25

 <210> 30
 <211> 24
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 30
 ggcatttgac ctctctgtgg ctat 24

 <210> 31
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 31
 cggccacttc tgtgagcctc ttggt 25

 <210> 32
 <211> 24
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 32
 cctgggcctt ccatccaacc tgag 24

 <210> 33
 <211> 27
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 33
 tgctcttaga tccttcctgg cttcttc 27

 <210> 34
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 34
 tggcctatga ccactttgtg gcgat 25

 <210> 35

<211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 35
 ctgcatgaca tagaccttc tcttt 25

<210> 36
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 36
 tgtgttgata cctaggcaaa tgagc 25

<210> 37
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 37
 tggcctatga ccaattcctg gccat 25

<210> 38
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 38
 accatcatga attgacaggt ttgca 25

<210> 39
 <211> 24
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 39
 ggcattgattg cctggtgtgc ttca 24

<210> 40
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 40
 aaaacttttt tttgtgatgt tcccc 25

<210> 41
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 41
 tggtttgagg cagtgaatc agtct 25

<210> 42
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 42
 tgtccattga ccactacgtg gccgt 25

<210> 43
 <211> 24
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 43
 cctatgtcac cgccttcttg ggaa 24

<210> 44
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 44
 tggcatttga tcactatgta gctat 25

<210> 45
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 45
 ctgccctact gctgaggcaa tatac 25

<210> 46
 <211> 22
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Synthtic DNA oligonucleotide

 <400> 46
 attcctagaa aactgtatta aa 22

<210> 47
 <211> 24
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 47
 gagtggttttc tctggctgcc atgg

24

<210> 48
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 48
 caacactttt accgtgacat tatcc

25

<210> 49
 <211> 24
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 49
 atcgtctgga catgctgcac atcc

24

<210> 50
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 50
 cggcctatga ccacttcgtg gccat

25

<210> 51
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 51
 tactttttcc tctgacactt ggcta

25

<210> 52
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 52
 tgtcctacga cctctatgtg gccat

25

<210> 53
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 53
 tccactgatg ctgccctc 18

<210> 54
 <211> 19
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 54
 ccatcatggg tctaacttg 19

<210> 55
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 55
 cagctgaaga aggaacct 18

<210> 56
 <211> 19
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 56
 gccgtgatgg catttgacc 19

<210> 57
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 57
 tgtcagaaca agaggctc 18

<210> 58
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 58

cctgctcctg ggccttcc

18

<210> 59
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 59
 agaagccagg aaggatct

18

<210> 60
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 60
 tggcagatcg ccacaaag

18

<210> 61
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 61
 actcaaaaag agaaaggtct

20

<210> 62
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 62
 gattatcatg tgttgatacc

20

<210> 63
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 63
 cggcagatgg ccaggaat

18

<210> 64
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 64		
gaaggatgca aacctgtc		18
<210> 65		
<211> 18		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		
<400> 65		
agaggatgaa gcacacca		18
<210> 66		
<211> 21		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		
<400> 66		
atcaggtgga aaactttttt t		21
<210> 67		
<211> 18		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		
<400> 67		
atcctctggt ttgaggca		18
<210> 68		
<211> 19		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		
<400> 68		
ttatccatgt ccattgacc		19
<210> 69		
<211> 18		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		
<400> 69		
aggctgttcc caagaagg		18
<210> 70		
<211> 18		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> Synthtic DNA oligonucleotide		

<400> 70
 tggccatggc atttgatc 18

<210> 71
 <211> 19
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 71
 tggggaagta tattgcctc 19

<210> 72
 <211> 21
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 72
 gtcattctca ttcctagaaa a 21

<210> 73
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 73
 gcagctgagt gttttctc 18

<210> 74
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 74
 taacaatggg ataatgtcac 20

<210> 75
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Synthtic DNA oligonucleotide

<400> 75
 ggcaacatcg tctggaca 18

<210> 76
 <211> 18
 <212> DNA
 <213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 76

taacagatgg ccacgaag

18

<210> 77

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 77

ccccatgtac tttttcctc

19

<210> 78

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Synthtic DNA oligonucleotide

<400> 78

gttacagatg gccacatag

19

<210> 79

<211> 936

<212> DNA

<213> Homo sapiens

<400> 79

atgagtgcaa acacctccat ggtgactgag tttcttcttc tcggtctctc ccacctggcc 60

gacctccagg gcttgctctt ctctgtcttt ctactatct acctgctgac cgtggcaggc 120

aatttcctca ttgtggtgct ggtctccact gatgctgcc tccagtcccc tatgtacttc 180

ttctgcgca cctctcggc cttggagatt ggctatacgt ctgtcacggt cccctgcta 240

cttcaccacc tccttactgg cgggcgccac atctctcgt ctggatgtgc tctccagatg 300

ttcttcttcc tcttctttgg cgccacggag tgctgcctcc tggcagccat ggcctatgac 360

cgctatgcag ccatctgtga acccctcgc taccactgc tgctgagcca ccgggtgtgt 420

ctacagctag ctgggtcggc gtgggcctgt ggggtgctgg tggggctggg ccacaccct 480

ttcatcttct ctttgccctt ctgcgcccc aataccatcc cgcagttctt ctgtgagatc 540

cagcctgtcc tgcagctggt atgtggagac acctcgctta atgaactgca gattatcctg 600

gcaacagccc tcctcatcct ctgccccttt ggctcatcc tgggctccta cgggcgtatc 660

ctcgttacca tcttcggat cccatctgtt gcgggcggcc gcaaggcctt ctccacctgc 720

tcctcccacc tgatcgtggt ctccctcttc tatggcaccg cactctttat ctatattcgc 780

ccctaaggcca gctaagatcc ggccactgac cctctggtgt ccctcttcta tgctgtggtc 840

accccatcc tcaacccat catctacagc ctgcggaaca cagaggtcaa agctgccta 900

aagagaacca tccagaaaac ggtgcctatg gagatt 936

<210> 80

<211> 974

<212> DNA

<213> Homo sapiens

<400> 80

```

atgaagatca accagacaat cctgaaggaa ttcattcttg ttggttttc tgtgtacca 60
catgtacaga ctttctttt tgtggtcttc ttttgtctct acctctcac cttgcaggt 120
aatctgacca tcatgggtct aacttgagtg gacaggcccc tccacacccc tatgtatctc 180
ttccttagtg cactctcctt ctctgagacc tgctatacac tgaccatcgt cccaagatg 240
ctggaagatc tactggccaa ggacagaagc atttcagtca caggttgtag cttacagatg 300
tgcttcttct tgggacttg tggcacaac tgtatcattc tcactttgat gggatatgac 360
cgcttcctgg ccatttgtaa cctctaga tatccactgc ttatgaccaa cattgtatgt 420
ggacaacttg tggcctctgc ttgcactgca ggcttcttta tctctcttac agagactgca 480
ctgatattca gggactcttt ctgcagaccc aaccttgta aacacttctt ctgccatatg 540
ctggcagtta ttaggctgtc ttgtatagac agtaaccaca cagaattcat tataacactg 600
atctcagtgt ctggtttgct gggaccctt ctgctcatca tcctgactga tgtcttcatt 660
atttctactg tcctcaggat cccttcagct gagggcaagc agaaggcctt caccacctgt 720
gcctccacc tcaccgtggt tataatccac tttggtttg catctattgt ttatttgaag 780
ccagaagcct caggagatga cacactcata gcagtccctt atactgtcat tacccttc 840
ctcagcccca tcatattcag cctgaggaat aaggacatga aaaatgcttt tagaagaatg 900
atgggaaaca cagttgcctt gaaaaataa tcttgggttg ttgctgcttg tttgaagaag 960
ggctcaatgt cccc 974

```

<210> 81

<211> 954

<212> DNA

<213> Homo sapiens

<400> 81

```

agtctgggaa gcatgaataa ctcacagata tctactgtga cgcagtttgt gttgttggg 60
tttctggtc cctggaaaat tcagatcatc tttttctcaa tgattttgtt ggtctacac 120
ttcactctga ctgggaatat ggccatcatc tgtgcagtga ggtgggacca tcgactccat 180
accttatgt acgtgtcct agccaacttc tccttcctag agatctggta tgtgacctgc 240
acagtcccca acatgctggt aaatttttcc tccaaaacta agaccatata attctctgga 300
tgtttcactc agttccactt cttcttttcc ctgggcacaa ctgaatgctt cttcctctgt 360
gtcatggctt atgatcgga cctggccatc tgccaccac tgcactatcc ctccattatg 420
actggccagc tctgtggcat cttggtgtct ctttgttggc tcattggttt ccttggacat 480
tcaatttcca tttcttcat ttttcaacta ctttctgtg gtcccaacat cattgatcat 540
tttctgtgtg atgtagaccc actgatggca ttgtcctctg cccctactca catcataggg 600
catgtgttcc attctgtgag ctctcttttc atcaacctca ccatggtgta catccttggg 660
tcctatacct tgggtctcag aactgtgctt taggttcctt cttcagctgg atggcaaaag 720
gccatctcta cctgtgggtc acacttggtt gttgtgtctc tgttctatgg agccataatg 780

```

ctgatgtatg tgagtgccac acctggcaac tcagttgcta tgcataagct catcacactg 840
 atatattctg tggtaacacc tgtcttaaac cccctcatct acagcctacg caacaaggac 900
 atgaaatatg cctcccatca tgtcttctgt ggaatgagaa ttatccagag atca 954

<210> 82
 <211> 921
 <212> DNA
 <213> Homo sapiens

<400> 82
 atgctgaata caacctcagt caccgaattt ctctcttgg gagtgacaga cattcaagaa 60
 ctgcagcctt ttctcttctg ggttttctc accatctact tcatcagtgt gactgggaat 120
 ggagcogttc tgatgattgt catctccgat cctagactcc attcccttat gtatttcttc 180
 ctgggaacc tgtctacct ggatatctgt tactctacgg tgacactgcc aaaaatgctg 240
 cagaactttc tctctacaca caaagcaatt tctttcttgg gatgcataag ccagcttcat 300
 ttcttccact tctggggcag cacggagtcc atgttggtcg ccgtgatggc atttgacctc 360
 tctgtggcta tctgcaagcc acttcgctac actgtcatca tgaacctca gctctgtacc 420
 cagatggcca tcacaatctg ggtcattggg tttttccatg cctgctgca ctccgtaatg 480
 acttctcgct tgaacttctg tggttccaac cgtatccatc attttctctg tgatattaag 540
 ccattgctaa agctggcctg tgggaacact gagcttaac agtggctact cagtactgtc 600
 acggggacaa ttgccatggg ccccttcttt ctgacacttc tctcctattt ctacattatc 660
 acttatctct tcttcaagac ccgttcttgt agcatgctct gtaaagcact gtccacttgt 720
 gcctccact tcatggtagt tattcttttc tatgcacctg ttcttttcac ctatatccat 780
 cctgcgttag agagcttcat ggaccaggac cggattgttg ccatcatgta cactgtggtc 840
 actcctgtac taaacctact gatctatact ttgaggaaca aggaagtga gggggccttg 900
 ggtagagtga tcagaaggct t 921

<210> 83
 <211> 954
 <212> DNA
 <213> Homo sapiens

<400> 83
 atgatgagct ttgccctaa tgcttcacac tctccggttt ttttgctcct tgggttctcg 60
 agagctaaca tctctacac tctctcttc ttctgttcc tggtattta cctgaccacc 120
 atactgggga atgtgacact ggtgctgctc atctcctggg actccagact gcactcacc 180
 atgtattatc tgctcgtgg cctctctgtg atagacatgg ggctatccac agttacactg 240
 cccagttgc tggcccatth ggtctctcat taccacaacca ttctgctgc ccgctgcttg 300
 gctcagttct ttttcttcta tgcatttggg gttacagata cacttgctcat tgctgtcatg 360
 gctctggatc gctatgtggc catctgtgac cccctgcact atgctttggg aatgaatcac 420
 caacggtgtg cctgcttact agccttgagc tgggtgggtg ccatactgca caccatgttg 480
 cgtgtgggac tegtctgcc tctttgctgg actggggatg ctgggggcaa cgtaaacctt 540
 cctcacttct tttgtgacca ccggccactt ctgcgagcct ctgtttctga cataattct 600

aatgagctgg ccatattctt tgagggtggc ttccttatgc tgggcccctg tgccttcatt 660
gtactctctt atgtccgaat tggggccgct attctacgtt tgccttcagc tgcctggcgc 720
cgccgagcag tctccacctg tggatccac ctcaccatgg ttggtttcct ctacggcacc 780
atcattttgt tctacttcca gcctcccttc cagaactctc agtatcagga catggtggct 840
tcagtaatgt atactgccat tacacctttg gccaacccat ttgtgtatag cctccacaat 900
aaggatgtca aggggtgact ctgcaggctg cttgaatggg tgaaggtaga cccc 954

<210> 84
<211> 941
<212> DNA
<213> Homo sapiens

<400> 84
atgatgaaga agaaccaaac catgatctca gagttcctgc tcttgggcct tccatccaac 60
ctgagcagcg gaatctgttc tatgccttgt tcttggccgt gtatcttacc accctcctgg 120
ggaacctcct cgtcattgtc ctcattcgac tggactccca cctccacatg cctatgtatt 180
tgtgtctcag caacttgtcc ttctctgacc tctgcttttc ctgggtcaca atgcccaa 240
tgctgcagaa catgcagagc caaaacccat ccaccccctt tgcggactgc ctggctcaga 300
tgtactttca tctgttttat ggagttcttg agagcttcct ccttgtggtc atggcttata 360
actgctatgt ggtatattgc tttcctctgc actacaccac tatcatgagc cccaagtgtt 420
gccttgggtc gctgacactc tcttggctgt tgaccactgc ccatgccacg ttgcacacct 480
tgcttatggc caggctgtcc ttttgtgctg agaatgtgat tctcactttt ttctgtgata 540
catctacctt gttgaagctg gcctgtccca acacgcaagt caatgggtgg gtgatgtttt 600
tcatgggcgg gctcactcct gtcaccccat tctactcct catcatgtcc tgtgcaagaa 660
tcgtctccac catcctcagg gtcccttcca ctgggggcat ccagaaggct ttctccacct 720
gtggccccca cctctctgtg gtgtctctct tctatgggac aattattggt ctctacttgt 780
gccattgac gaatcataac actgtgaagg aactgtcat ggctgtgatg tacactgggg 840
tgaccacat gctgaacccc ttcatctaca gctgaggaa cagagacatg agggggaacc 900
ctgggcagag tcttcagcac aaagaaaatt ttttgtctt t 941

<210> 85
<211> 948
<212> DNA
<213> Homo sapiens

<400> 85
ctcctggaag gagggaaatca gactagcacc tttgagttcc tctctgggg actctcagac 60
cagccacagc agcaacacat cttcttctct ctgtttctgt ggatgtacgt ggtcactgtg 120
gctgggaacc tgctcattgt cctggccatt ggcactgaca cacacctcca caccctatg 180
tacttcttcc ttgccagctt gtcgtgtgca gatattttt ccacctccac cactgtgccc 240
aaggccctgg tgaatatcca gaccagagc aggtccattt cctacgcagg gtgtttggca 300
cagctctact tcttcttgac ttttggggac atggacatct ttctccggc tacaatggcc 360

```

tatgaccgct atgtggccat ttgccacctg ctccactata tgatgatcat gagcctccac 420
cgctgtgcct tcctgggtgac agcctgctgg accctcacaa gtcttctcgc catgactcgc 480
accttcctca tattccggct ttccttgtgc tcttagatcc ttectggctt cttctgtgat 540
ttgggaccgc tgatgaaggt gtcttgctct gacgccagg tcaatgagct tgtgctcctc 600
ttcctagggg gagcagtcac ttaateccct tttatgctca tcctgggtctc ttatatccgc 660
attgtttcag ccatcctcag ggccccctct gccaggga ggcgcaaggc cttctctacc 720
tgcgactctc acctcgttgt tgttgctttg ttctttggga cagtgatcag ggcttatctg 780
tgccctcat cctcttctc caactcagta aaggaggata cagcggctgc tgtcatgtac 840
acagtgtga ctccccgtct gaacctctt atttacagca tgcggaacaa ggacatgaag 900
gcggcggtgg ttagacttct caagggcagg gtctccttct cacagggc 948

```

```

<210> 86
<211> 975
<212> DNA
<213> Homo sapiens

```

```

<400> 86
atgaagactt ttagttcctt tcttcagatc ggcagaaata tgcacaaagg aaaccaaacc 60
accatcactg aattcattct cctgggattt ttcaagcagg atgagcatca aaacctcctc 120
tttgtgcttt tcttgggtat gtacctggct actgtgattg ggaacgggct catcattgtg 180
gctatcagct tggatacgtc ccttcatacc cccatgtatc tcttccttgc caatctatcc 240
tttgtgata tttcctccat ttccaactca gtccccaaaa tgcctgggtgaa tattcaaacc 300
aagagtcaat ccatctctta tgagagctgc atcacacaga tgtacttttc tattgtgttt 360
gtcgtcattg acaatttgct cttggggacc atggcctatg accactttgt ggcgatctgc 420
caccctctga attatacaat tctcatgcgg cccagggtcg gcattttgct cacagtcatc 480
tcatggttcc tcagtaatat tattgctctg acacacacc ttctgctcat tcaattgctc 540
ttctgtaacc acaactctct cccacacttc ttctgtgact tggccccctc gctcaaactg 600
tcctgttcag atacattgat caatgagctt gtgtgtgtta ttgtgggttt atcagttatc 660
atcttcccc ttacactcag cttcttttcc tatgtctgca tcatcagagc tgcctgaga 720
gtatcttcca cacagggaaa gtggaaagcc ttctccactt gtggctctca cctgacagtt 780
gtattactgt tctacggaac cattgtaggc gtgtactttt tccccctc cactcacct 840
gaggacactg ataagattgg tgctgtccta ttcactgtgg tgacacccat gataaacccc 900
ttcatctaca gcttgaggaa taaggatatg aaagggtgcc tgagaaagct catcaataga 960
aaaatttctt ccctt 975

```

```

<210> 87
<211> 993
<212> DNA
<213> Homo sapiens

```

```

<400> 87
atggtcacag agttcctcct actgggattt ctctggggcc caaggattca gatgctcctc 60
tttgggctct tctccctggt ctatgtcttc accctgctgg ggaatgggac catcctgggg 120

```

ctcatctcac tggactccag actccacacc cccatgtact tcttctcttc acacctggcc 180
 gtcgtcaaca tcgcctatgc ctgcaacaca gtgccccaga tgctgggtgaa cctcctgcat 240
 ccagccaagc ccatctcctt tgctggctgc atgacataga cctttctctt tttgagtttt 300
 gcacatactg aatgcctcct gttgggtgctg atgtcctacg atcggtacgt ggccatctgc 360
 caccctctcc gatatttcat catcatgacc tggaaagtct gcatcactct ggccatcact 420
 tcctggacat gtggctccct cctggctatg gtccatgtga gcctcatcct aagactgccc 480
 ttttgtgggc ctcgtgaaat caaccacttc ttctgtgaaa tcctgtctgt cctcaggctg 540
 gcctgtgctg atacctggct caaccagggtg gtcactcttg cagcctgcat gttcactctg 600
 gtgggaccac tctgcctggg gctgggtctcc tactcacaca tcctggcggc catcctgagg 660
 atccagtctg gggaggccg cagaaaggcc ttctccacct gtcctccca cctctgcgta 720
 gtgggactct tctttggcag cgccatcgtc atgtacatgg cccctaagtc ccgccatcct 780
 gaggagcagc agaaggctct ttttctattt tacagttctt tcaacccgat gctaaacccc 840
 ctgatttaca acctgaggaa tgtagaggtc aagggtgccc tgaggagagc actgtgcaag 900
 gaaagtcatt cctaagagg gtgacatttg aactgccagc ctcagttgtc acgtggactc 960
 ttgatgcca attattgcct caatccagaa aag 993

<210> 88
 <211> 1011
 <212> DNA
 <213> Homo sapiens

<400> 88
 atgaaaaaaa atgcaagttt tgaagacttc tttattctac ttggattttc taactggcct 60
 catctggaag tagttctctt tgtggttctc ttgatcttct acttgataac actgatagga 120
 aacctgttca tcatcatcct gtcatacctg gactcccatc tccacactcc catgtacttc 180
 ttcttttcaa atctctcatt tctggatctc tgctacacca ccagctctat ccctcagttg 240
 ctggtgaatc tctggggccc ggaaaagacc atctcttatg ctggttgtag agttcaactt 300
 tactttgttc tcgcactggg aaccgcagag tgtgtcctac tgggtggtgat gtcctatgat 360
 cgttatgcag ctgtgtgtag acctttgcat taccactgtc tcatgcaccc tcgtttctgc 420
 cgcttggttg ctgcggcttc ttgggttaagt gggttttaca cctcagcact tcattcctcc 480
 tttactttct ggataccctt atgtagacat cgcttagtgg atcacttctt ctgtgaagct 540
 ccagcacttc tgcgattatc atgtgttgat acctaggcaa atgagctgac cctcatggtc 600
 atgagctcca tttttgttct catacctctc atcctcatcc tcacttcta tggtgccatt 660
 gcccgggctg tactgagcat gcaatcaacc actgggcttc agaaagtgtc taggacatgt 720
 ggagcccatc ttatggttgt atctctcttt ttcatccag tcatgtgcat gtatctccag 780
 ccaccatcag aaaattctca agatcaaggc aagttcattg cctcttttta cactgttgtc 840
 acacctagtc ttaacctctt aatctacact ttcagaaaca aggatgtaag aggggcagtg 900
 aagagactaa tgggggtgga atgggggatg tgacagggaa atcatgttgg ctgtgtgttt 960
 tcctagggtc ttatccattt tgaaagggtg tttccctgct tctttgtgat t 1011

<210> 89
 <211> 945
 <212> DNA
 <213> Homo sapiens

<400> 89
 atgcagccag aatctggggc caatggaaca gtcattgctg agttcatcct gctgggcttg 60
 ctggaggcgc cagggctgca gccagttgtc tttgtgctct tcctctttgc ctacctggtc 120
 acggtcaggg gcaacctcag catcctggca gctgtcttgg tggagccaa actccacacc 180
 cccatgtact tcttcctggg gaacctatca gtgctggatg ttgggtgcat cagcgtcact 240
 gttccatcaa tgttgagtgc tctcctgtcc cgcaagcgtg cagttccctg tggggcctgc 300
 cttaccacgc tcttcttctt ccatctgttc gttggagtgg actgcttcct gctgaccgcc 360
 atggcctatg accaattcct ggccatctgc cggccctca cctacagcac ccgcatgagt 420
 cagacagtcc agaggatggt ggtggctgcg tcctgggctt gtgctttcac caacgcactg 480
 acccacactg tggccatgtc cacgtcaac ttctgtggcc ccaatgtgat caatcacttc 540
 tactgtgacc tcccacagct cttccagctc tcctgtccca gcacccaact caatgagctg 600
 ctgctttttg ctgtgggttt tataatggca ggtaccccca tggctctcat tgtcatctcc 660
 tatatccag tggcagctgc agtcctgcga attcgtcttg tagagggcag gaagaaagcc 720
 ttctccacat gtggctccca cctcactgtg gttgccatat tctatggttc aggtatcttt 780
 aactatatgc gactgggttc aaccaagctt tcagacaagg ataaagctgt tggaaattttc 840
 aacactgtca tcaatcccat gctgaacca atcatctaca gcttcagaaa ccctgatgtg 900
 cagagtgcga tctggaggat gctcacaggg aggcggtcac tggct 945

<210> 90
 <211> 924
 <212> DNA
 <213> Homo sapiens

<400> 90
 atgaggcaga ataacaatat tacagaatctt gtcctcctgg gcttctctca gtatcctgat 60
 gtgcaaaatg cattatttgt catgttttta ctcatatata ttgtgactat ggtggggaac 120
 ctgctcattg tgggtgtctat tattgccagt cccttttttg gctccccagt gtacttcttc 180
 cttgcctgcc tgtcatttat agatgctgtg tattccacca ccatttctcc tgtattgatt 240
 gtagacttac tctgtgataa aaagactatt tcctcccag cttgcatggg tcagctatctt 300
 atagagcact tgtttggtga tactgacgtc ttccttctgg tggatgagtc ctatgatcgc 360
 tacgtggcca cctgtaagcc actgcgctat ttgaccatca tgaattgaca ggtttgcatc 420
 cttctgttgg tgggtgctgt gactggaggt tttctgcatt ctgtgtttca aatttttagtt 480
 gtgtacagtc tccctttctg tggccccaat gtcatttacc actttttctg taacatatatc 540
 cctttatttg accctggaatg cactgacacc tacttcgtag gcctcgctgt ggttttcaat 600
 ggtggagcaa tctgtatggt catcttcacc cttctactaa tctcctatgg ggtcatccta 660
 aactccctta aaacttatag tccggaaggg aggcataaag ctccgtttat ctgcagctcc 720

cactttatca tggttatctt gttttttggt ccctgtattt tcttatatgt tagacccgtt 780
 tcaaactttc ctattgataa attcctgact gtgttttatt cagttatcac acccaagtgt 840
 aatcctttta tatacatggt gagaaattca gagatgagaa atgctataga aaatctcttg 900
 ggataccaaa gtgggaagac agga 924

<210> 91
 <211> 945
 <212> DNA
 <213> Homo sapiens

<400> 91
 atggcctgga gcaatcagtc tgcggtaacc gaattcatac tacggggtct gtccagtctt 60
 ttagaactcc agattttcta cttcctgttt ttctccatag tctatgcagc cactgtgctg 120
 gggaaaccttc ttattgtggt caccattgca tcagagccac accttcattc ccctacgtac 180
 tttctgctgg gcaatctctc cttcattgac atgtccctgg cctcatttgc ccccccaaa 240
 atgattgcag acttccttag agaacacaaa gccatctctt ttgaaggctg catgaccag 300
 atgtttctcc tacatctctt agggggtgct gagattgtac tgctgatctc catgtccttt 360
 gataggtagc tggtatctg taagcctcta cattaccta caatcatgag ccgaagaatg 420
 tgtgttgggc ttgtgatact ttcctggatt gtcggcatct tccatgctct gagtcagtta 480
 gcatttacag tgaatctgcc cttctgtgga cccaatgaag tagacagttt cttttgtgac 540
 ctcccttttg tgattaaact tgcttgtgtc gacacatata ttctgggggt gttcatgatc 600
 tcaaccagtg gcatgattgc cctgggtgtc ttcacctctt tgggtatctc ttacactatc 660
 atcctgggtca ccgttcggca gcgttctctt ggtggatcct ccaaagccct ctccacgtgc 720
 agtgccact ttactgttgt gaccttttc tttggcccat gcactttcat ttatgtgtgg 780
 cctttcacia atttcccaat agacaaagta ctctcagtat tttataccat atacactccc 840
 ctcttgaatc cagtgatcta taccgttagg aataaagatg tcaagtattc catgaggaaa 900
 ctaagcagcc atatcttta atctaggaag actgatcata ctct 945

<210> 92
 <211> 910
 <212> DNA
 <213> Homo sapiens

<400> 92
 atgagagaat tttcttctgc agggttctca cagacaccat ctattgaagc agggctatct 60
 gtactatttc ttttcttcta tatgtccatt tgggttgga atgtcctcat catggtcaca 120
 gtagcatctg ataaatacct gaattcatca cccatgtatt tcttcttgg caacctctca 180
 tttctggacc tatgttatcc aacagtaacg acccctaagc ttctggctga cttctttaat 240
 catgaaaaac tcatttccta tgaccaatgc attgtgcaac tcttcttctt gcattttgta 300
 ggggcagctg agatgttcct gctcacagtg atggcgtagc atcgctatgt tgcaatctgt 360
 cgcccgtgc actacaccac tgcatgagt cgggggttat gctgtgtgtt ggttgctgcc 420
 tctggatgg gaggtttgt gcactccact gtccagacca ttctcactgt ccatctaccc 480
 ttttggggc caaatcaggt ggaaaacttt ttttgtgat gttcccctg tcatcaaact 540

tgcttgtgct gacacttttg tcattgaatt gctcatggta tctaacagtg ggttgatctc 600
 caccatctcc ttgtgggtgc tgatttcctc ctacaccact atcctagtca agattcgctc 660
 caaggaagga aggcgaaagg cactctccac gtgtgcctct cacctcatgg tggtaacact 720
 gttttttgga cctgtatatt tcattctacgc tcgtcctttc tctacatttt ctgtggacaa 780
 gatggtgtct gtactctaca atgttattac cccaatgcta aacccccctca tctacacact 840
 tcggaacaaa gaggtaaagt cagccatgca gaagctctgg gtcagaaatg ggcttacttg 900
 gaaaaagcag 910

<210> 93
 <211> 968
 <212> DNA
 <213> Homo sapiens

<400> 93
 atggaaatcc taagcaactc aacatctaaa ttccaacct tcttgttgac cggcattcct 60
 ggccatagagt ctgcccatgt ctggatctcc attcctttct gctgttttta tgccattgcc 120
 ctctctggga acagcgtgat cctgtttgtc atcattaccc agcagagtct ccatgaaccc 180
 atgtattatt tcctctccat gctatcagcc actgatctgg gcttgactgt ttcttcattg 240
 tcaacaacat taggtatcct ctggtttgag gcagtgaat cagtctatac agctgcattg 300
 tccagatgtt ttttcttcat ggattcactt ttatggaatc tggagtctg gtggctacag 360
 cctttgaccg ttatgtggcc atctgtgatc ctctgaggta cactaccatt ctactaatt 420
 ccagaatcat tcaaagggt cttctgatga ttacacgtgc tatagtacta atattaccac 480
 tacttttgct ccttaagcct ctctatttct gtagaatgaa tgccctttct cactcctatt 540
 gttaccatcc agatgtgatt caattagcat gttcagacat tcgggcaaat agcatctgtg 600
 gattaattga tctatcctg accactggaa tagatacacc atgcattgtc ctgtcatata 660
 tcttaattat tcgctttgtc ctcagaattg cctccctga agaatggcac aaggctctca 720
 gcacctgtgt ctccacgtg ggagcagttg ctttcttcta catccacatg ctgagcctgt 780
 ccttggtgta tcgctatggt cggtcagccc ccagagtagt ccattcagt atggctaacg 840
 tatacctgct ttaccacct gtgtcaacc ccacatctca cagtgtaaaa aaaaaacaaa 900
 tccgcaaggc tatgtcagc ctgtgctta caaatgaac agacatagtt ttatttgata 960
 caaacctg 968

<210> 94
 <211> 963
 <212> DNA
 <213> Homo sapiens

<400> 94
 atgacaattc ttcttaatat cagcctccaa agagccactt tcttcctgac gggcttccaa 60
 ggtctagaag gtctccatgg ctggatctct attcctttct gcttcatcta cctgacagtt 120
 atcttgggga acctcaccat tctccacgtc atttgactg atgccactct ccatggaccc 180
 atgtactatt tcttgggcac gctagctgtc acagacttag gcctttgcct ttccacactg 240

```

cccaactgtgc tgggcatttt ctggtttgat accagagaga ttggcatccc tgccctgtttc 300
actcagctct tcttcatcca caccttgtct tcaatggagt catcagttct gttatccatg 360
tccattgacc gctacgtggc cgtctgcaac ccaactgcatg actccaccgt cctgacacct 420
gcatgtattg tcaagatggg gctaagctca gtgcttagaa gtgctctcct catcctcccc 480
ttgccattcc tcctgaagcg cttccaatac tgccactccc atgtgctggc tcatgcttat 540
tgtcttcacc tggagatcat gaagctggcc tgctctagca tcattgtcaa tcacatctat 600
gggctctttg ttgtggcctg caccgtgggt gtggactccc tgctcatctt tctctcatac 660
gccctcatcc ttgcaccgt gctcagcatt gcctcccacc aggagcgact ccgagccctc 720
aacacctgtg tctctcatat ctgtgctgta ctgctcttct acatcccat gattggcttg 780
tctcttgctg atcgctttgg tgaacatctg ccccgcttg tacacctctt catgtcctat 840
gtgtatctgc tggtagcacc cttatgaac cccatcatct acagcatcaa gaccaagcaa 900
attcgccagc gcatcattaa gaagtttcag tttataaagt cacttaggtg tttttggaag 960
gat 963

```

```

<210> 95
<211> 953
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (836)..(836)
<223> Any nucleotide

```

```

<400> 95
atgcctactg taaaccacag tggcactagc cacacagtct tccacttget gggcatccct 60
ggcctacagg accagcacat gtggatttct atccatttct tcatttccta tgtcaccgcc 120
cttcttgga acagcctgct catcttcatt atcctcaca agcgcagcct ccatgaaccc 180
atgtacctct tcctctgcat gctggctgga gcagacattg tcctctccac gtgcaccatt 240
cctcaggcct tagctatctt ctggttcctg gctggggaca tctccctgga tcgttgcatc 300
actcagctct tcttcatcca ttccaccttc atctctgagt cagggatctt gctggtgatg 360
gcctttgacc actatattgc catatgctac ccaactgagg acaccacat tcttacaat 420
gctctgatca agaaaatttg tgtgactgtc tctctgagaa gttatgttac aattttccct 480
atcatatttc ttttaaaaag attgactttc tgccagaata atattattcc acacaccttc 540
tgtgaacaca ttggcctagc caaatatgca tgtaatgaca ttcgaataaa catttggtat 600
gggttttcca ttctaattgc gacggtggc ttagatgttg tactaatttt tatttcctat 660
atgctgattc tccatgctgt cttccacatg ccttctccag atgcttgcca caaagctctc 720
aacacatttg gctcccatgt ctgcatcatc atcctctttt atgggtctgg catcttcaca 780
atccttacc agaggttttg acgccacatt ccaccttgta tccacatccc gttggntaat 840
gtctgcattc tggctccacc tatgtggaat ccattattt atgggatcaa aaccaagcaa 900
atccaggaa aggtggttca gtttttgtt ataaacaga aataactttg gtt 953

```

<210> 96
 <211> 960
 <212> DNA
 <213> Homo sapiens

<400> 96
 atgccatctg cctctgccat gatcattttc aacctgagca gttacaatcc aggacccttc 60
 attctggttag ggatcccagg cctggagcaa ttccatgtgt ggattggaat tcccttctgt 120
 atcatctaca ttgtagctat tgtgggaaac tgcacacctc tctacctcat tgtggtggag 180
 catagtcttc atgaacccat gttcttcttt ctctccatgc tggccatgac tgacctcatc 240
 ttgtccacag ctggtgtgcc taaagcactc agtatctttt ggctaggggc tcgcgaaatc 300
 acattcccag gatgccttac acaaatgttc ttcccttact ataactttgt cctggattca 360
 gccattctga tggccatggc atttgatcac tatgtagcta tctgttctcc cttgagatat 420
 accaccatct tgactcccaa gaccatcatc aagagtgcta tgggcatctc ctttcgaagc 480
 ttctgcatca tccctgccaga tgtattcttg ctgacatgcc tgcctttctg caggacacgc 540
 atcatacccc acacatactg tgagcatata ggtgttgccc agctcgctg tgctgatatc 600
 tccatcaact tctggtatgg cttttgtgtt cccatcatga cggtcacctc agatgtgatt 660
 ctcatgtctg tttcctacgc acacatcctc tgtgtctgtc ttggccttcc ctcccaagat 720
 gcctgccaga aagccctcgg cacttgtggt tctcatgtct gtgtcatcct catgttttat 780
 acacctgcct ttttctccat cctcgcccat cgctttggac acaatgtctc tcgcaccttc 840
 cacatcatgt ttgccaatct ctacattgtt atcccacctg cactcaaccc catggtttac 900
 ggagtgaaga ccaagcagat cagagataag gttatacttt tgttttctaa gggtagagga 960

<210> 97
 <211> 963
 <212> DNA
 <213> Homo sapiens

<400> 97
 atgctaacac tgaataaaac agaccttaata ccagcttcat ttattctgaa tggagtccca 60
 ggactggaag acacacaact ctggatttcc ttccattct gctctatgta tgttgtggct 120
 atggtaggga attgtggact cctctacctc attcactatg aggatgccct gcacaaaccc 180
 atgtactact tcttgcccat gctttccttt actgaccttg ttatgtgctc tagtacaatc 240
 cctaaagccc tctgcatctt ctggtttcat ctcaaggaca ttggatttga tgaatgcctt 300
 gtccagatgt tcttcatcca caccttcaca gggatggagt ctggggtgct tatgcttatg 360
 gccctggatc gctatgtggc catctgctac cccttacgct attcaactat cctcaccaat 420
 cctgtaattg caaagggttg gactgccacc ttccctgagag gggattact cattattccc 480
 tttactttcc tcaccaagcg cctgccctac tgcagaggca atatacttcc ccatacctac 540
 tgtgaccaca tgtctgtagc caaattgtcc tgtggtaatg tcaaggtcaa tgccatctat 600
 ggtctgatgg ttgccctcct gattgggggc ttgacatac tgtgtatcac catctcctat 660
 accatgattc tccgggcagt ggtagcctc tcctcagcag atgctcggca gaaggccttt 720
 aatacctgca ctgccacat ttgtgccatt gttttctcct atactccagc tttcttctcc 780

ttcttttccc accgctttgg ggaacacata atccccctt cttgccacat cattgtagcc 840
aatattttatc tgctcctacc acccactatg aaccctattg totatgggggt gaaaaccaa 900
cagatacgag actgtgtcat aaggatcctt tcaggttcta aggataccaa atcctacagc 960
atg 963

<210> 98
<211> 937
<212> DNA
<213> Homo sapiens

<400> 98
tcagtggcca aaggcaatca ttcaacagtg tatgaattta tcctcttggg gctcacagat 60
aatgcagagc ttcaagtcac tctctttggg atattccttg tagtatactt agctagcttt 120
atgggtaatt tcggtttgat tatgctaatt caaatcagtc ctcagcttca tacacccatg 180
tattttttcc tcagccatct ggcttttggt gatttttctt ttacttcac tggtgcccga 240
aataccttgg taaattttct gtgtgaagtt aaaagtataa cattttatgc atgtgccatt 300
caggtagctt gcttcacac attttagtgg tgtgaattat atttgcctc aatcatggca 360
tatgatcggt atgttgccat ctgtaaccct ttactttatg tcattctcat tcctagaaaa 420
ctgtattaaa ctgattgcta gcacgtatgt gtatggattc actgtgggac ttgtacagac 480
agtggcgaca tcctacttgt ctttttggtga ttccaacgtg atcaaccact tctacatga 540
tgatgttcca ttagtggtc tggtctgttc tgacactcat gtcaaagagc tgatgttggt 600
aatcattgct gggttcaata ctctctgctc tctagtaatt gtgctgattt cttatggttt 660
cattttcttt gccatcctga ggatacattc tgctgaaggg agacagaaag cattttctac 720
cagtgcctcc catctgacct ccatacaat attttatgga acaatcattt ttatgtaccc 780
gcagcccaag tcaagccatt ccctgaatat ggataaagtt gcttctgtgt ttaatgtggt 840
agtgatcctt acattaaacc cactgatcta tagtttaaga aatcaggagg taaaaaatgc 900
actaaagaga attatagaaa agttatgttt ggctgtc 937

<210> 99
<211> 968
<212> DNA
<213> Homo sapiens

<400> 99
atgacagatt acaatgaacc aatggaacca atggaagata agaaccagac agtagtgact 60
gaatttctct tattgggcct cacagatcat ccctatcaga agattgttct cttcttcatg 120
tttctctttg tttatcttat caccctggga ggtaacttgg ggatgatcac tctcatatgg 180
attgatecca gactccacac tcctatgtac ttttttctta ggcacttgct cttttagat 240
attgttctct cttcttctgt tgtgcctaag atgctgtgta atatctttgc agagaaaaaa 300
gacatcactt ttctggggtg tgctgcacag atgtgggtct ttgggtctct tgaggcagct 360
gagtgttttc tctgggtgcc atggcatatg accggtatgt ggccatctgc aagcccttgt 420
tgtatacgct cattatgtct cagcaggtct gtatgcagct ggtggtaggg ccttatgcca 480

```

tggctcttat aagcaccatg actcatacaa ttttcacttt ttgcttacct ttttgtgggt 540
caaataattat caatcacttt ttctgtgata tttttccact gctttcccta gcatgtgcag 600
acacctgggt gaataaattt gtgctgtttg tcttggtgag agctatagga gtactcagtg 660
gtctgatcat catggtctcc tatatttgca tcctgatgac catcttgaag atccagactg 720
ctgatgggaa gcaaaaagct ttcttcacct gtttttctca ccttgcggtt gtctccatcc 780
tgtatgggac tcttttcttg atttatgttc ggccaagttc aagttcctcc ctgggtatct 840
ataaagtgat ttctctattt tatactgttg taatcccat ggtaacccc cttatttaca 900
gcttgaggaa taaggaggtg aaagatgcat tcagaagaaa aattgagagg aaaaaattta 960
ttataggt 968

```

```

<210> 100
<211> 927
<212> DNA
<213> Homo sapiens

```

```

<400> 100
atggaagagg aaatgcaac attgctgaca gagtttggtc tcacaggatt tttacatcaa 60
cctgactgta aaataccgct ctctctggca ttcttggtta tatactcat caccatcatg 120
gggaatcttg gtctaattgt tctcatcttg aaagaccctc accttcatat ccaatgtac 180
ttattccttg ggagtttagc ctttgtggat gcttcgttat catccacagt gactccgaag 240
atgctgatca acttcttagc taagagtaag atgatatctc tctctgaatg catggtacaa 300
tttttttccc ttgtaaccac tgtaaccaca gaatgttttc tcttggaac aatggcatat 360
gatcgctatg tagccatttg caaagcttta ctttatccag tcattatgac caatgaacta 420
tgcatcagc tattagtctt gtcatttata ggtggccttc ttcatgcttt aatccatgaa 480
gctttttcat tcagattaac ctctgtgaat tccaacataa tacaacactt ttactgtgac 540
attatcccat tgtaaagat ttctgtact gattcctcta ttaactttct aatggttttt 600
atcttcgag gttctgttca agtttttacc attggaacta ttcttatatc ttatacaatt 660
atcctcttta caatcttaga aaagaagtct atcaaaggga tacgaaaagc tgtctccacc 720
tgtggggctc atctcttata tgtatcttta tactatggcc ccctcacctt caaatatctg 780
ggctctgcat ctccgcaagc agatgaccaa gatatgatgg agtctctatt ttacactgtc 840
atagttcctt tattaatatc catgatctac agcctgagaa acaagcaagt aatagcttca 900
ttcacaaaaa tgttcaaaag caatgtt 927

```

```

<210> 101
<211> 951
<212> DNA
<213> Homo sapiens

```

```

<400> 101
atgcaaccat atacaaaaa ctggacccag gtaactgaat ttgtcatgat gggctttgct 60
ggcatccatg aagcacacct cctctcttcc atactcttcc tcacatgta cctgttcacc 120
ttggtggaga atttggccat cattttagtg gtgggtttgg accaccgact acggagaccc 180
atgtatttct tctgacaca cttgtcctgc cttgaaatct ggtacacttc tgttacagtg 240

```

```

cccaagatgc tggctggttt tattgggggtg gatggtggca agaatatctc ttatgctggt 300
tgcctatccc agctcttcat cttcaccttt cttggggcaa ctgagtgttt cctactggct 360
gccatggcct atgatcgta tggggccatt tgtatgcctc tccactatgg ggcttttgtg 420
tcctggggca cctgcatccg tctggcagct gcctgttggc tggtaggttt cctcacaccc 480
atcttgccaa tctacctctt gtctcagcta acattttgtg gcccaaatgt cattgaccat 540
ttctcctgtg atgcctcacc cttgctagcc ttgtcgtgct cagatgtcac ttggaaggag 600
actgtggatt tcctgggtgc tctggctgtg ctactggcct cctctatggt cattgctgtg 660
tcctatggca acatcgtctg gacactgctg cacatccgct cagctgctga gcgtggaag 720
gccttctcta cctgtgcagc tcacctgact gtggtgagcc tcttctatgg cactcttttc 780
tttatgtatg tccagaccaa ggtgacctcc tccatcaact tcaacaagggt ggtatctgtc 840
ttctactctg ttgtcacgcc catgctcaat cctctcatct acagtcttag gaacaaggaa 900
gtgaaggagag ctctgggtcg agtcttttct ctcaactttt ggaagggaca g 951

```

```

<210> 102
<211> 960
<212> DNA
<213> Homo sapiens

```

```

<400> 102
atggaaagag gaaaccaaac agaagttgga aactttctcc tcctgggatt cgcagaggac 60
tctgacatgc agcttctcct ccatgggctg ttctctcca tgtacctggt taccatcatc 120
ggaaacctgc tcatcatcct gaccatcagt tcagactccc acctccacac ccccatgtac 180
ttcttctctt ccaacctgtc ctttgctgac atctgtttca catccacgac tgtcccaaag 240
atgctggtga atatccaaac acaaagcaaa atgatcactt ttgcaggctg cctcactcag 300
atattttttt tcattgcatt tggatgcctg gacaatttgc tcctgacat gacggcctat 360
gaccgcttcg tggccatctg ttacccctg cactacagg tcatcatgaa ccccggtc 420
tgtggactgc tggttctggg gtccctggtg atcagtgta tgggttcctt gcttgagacc 480
ttgaccattt tgaggctgtc ctctgcaca aatatggaaa ttccgcactt tttttgtgat 540
ccttcgaag tcctgaagct ggcctgttct gacaccttca tcaataacat cgtgatgtgt 600
tttgtagaca ttgtcctggg tgttttctct ctctgtggaa tcctattctc ttattctcag 660
attttctcct ccgtcctaag agtatcatct gccagaggcc agcacaaagc ctttaccacc 720
tgtggttccc acctctcagt ggtcagcttg ttctatggca ctggccttgg ggtctatctc 780
agttctgcag ttacaccacc ttctaggaca agtctggcag cctcggatgat gcacaccatg 840
gtcaccccca tgtgaaccc cttcatctac agcctgagga acaaggacat gaaggggtca 900
ctggggagac tcctcctcag ggcaacgtct ctcaaagagg ggaccattgc taagctctca 960

```

```

<210> 103
<211> 954
<212> DNA
<213> Homo sapiens

```

```

<400> 103

```

atgaagccaa caatacaaat ggcttcagga aatctcacat gggtagcgga gttcattctt 60
 gtgggagtct cagatgatcc ggagctccag attccctctt tcttgggtctt cctgggtgctc 120
 tatttgctga ccgtggcagg gaacctgggc atcatcaccc tcaccagtgt tgacctcaa 180
 cttcaaacc ccatgtactt tttctctga cacttggtta ttattaatct ttgcaattct 240
 actgtcgttg cccctaaaat gctgggtaac ttcctgggta ccaagaaaac catatcatac 300
 tatggatgtg cagcccaact ggggtggattc ttggttttca ttgtggctga gattttcacg 360
 ctggctgcaa tggcctatga ccgctatgtg gctatttga gccctctgct ctacgccgta 420
 gtggtgtctc caaagggtgtg tcgtctgctg gtgtccctca cataccttca gagtcttctc 480
 acagcactga ctgtctcttc ctgtgtgttc tctgtgtcat actgttcttc caacattatc 540
 aaccattttt actgtgatga tgtccctttg ctagcattgt cctgttctga tacctacatt 600
 ccagaaacag cagtctttat cttttcaggg accaacttgc ttttctccat gatcgttgtt 660
 ctgatatcct acttcaacat tgttattacc attttgagga tacgttcttc agaaggacga 720
 caaaaagcct tttccacctg tgcttctcac atgatagctg tgggtgtgtt ctatgggact 780
 ctcttttca tgtatttga accaaggagt aatcattcat tagatactga caaatggct 840
 tcggtcttct acaccctggg gataccagtg ctgaaccctc taatctacag cctcaggaac 900
 aagaacgtga aggatgcact aaagagggtc ctagataacc catgccgac actc 954

<210> 104
 <211> 936
 <212> DNA
 <213> Homo sapiens

<400> 104
 atggaacaac acaatctaac aacgggtgaat gaattcattc ttacgggaat cacagatatac 60
 gctgagctgc aggcaccatt atttgattg ttcctcatga tctatgtgat ctgagtgtg 120
 ggcaatttgg gcatgattgt cctcaccaag ttggactcca ggttgcaaac ccctatgtac 180
 ttttttctca gacatctggc tttcatggat cttggttatt caacaactgt gggacccaaa 240
 atgttagtaa attttgtgt ggataagaat ataatttctt attatttttg tgcaacacag 300
 ctagctttct tcttgtgtt cattggtagt gaactttta ttctctcagc catgtcctac 360
 gacctctatg tggccatctg taacctctg ctatacacag taatcatgtc acgaagggtg 420
 tgtcagggtg tggtagcaat cccttacctc tattgcacat tcatttctct tctagtcacc 480
 ataaagattt ttactttatc cttctgtggc tacaacgtca ttagtcattt ctactgtgac 540
 agtctccctt tgttaccttt gctttgttca aatacacatg aaattgaatt gataattctg 600
 atctttgcag ctattgattt gatttcatct cttctgatag ttcttttata ttacctgctc 660
 atcctttagt ccattctcag gatgaattct gctggcagac aaaaggcttt ttctacctgt 720
 ggagcccacc tgacagtggg catagtgttc tatgggactt tgcttttcat gtacgtgcag 780
 cccaagtcca gtcattcctt tgacactgat aaagtggctt ccatatttta caccctggtt 840
 atcccatgt tgaatccctt gatctatagt ttacgaaaca aagatgtaaa atatgccta 900
 cgaaggacat ggaataactt atgtaatat tttgtt 936